

**Texas Genetics Society 49<sup>th</sup> Annual Meeting**  
**March 31–April 2, 2022**  
**The Stella Hotel**  
**4100 Lake Atlas Drive**  
**Bryan, TX 77807**

**Thursday, March 31<sup>st</sup>**

**Aurora Room**

**2:00–5:00pm\***      **Pre-meeting R workshop**  
**Heath Blackmon, PhD**

**Celeste Pre-Function Area (hallway outside of Celeste Ballroom)**

**1:00–5:00pm**      **Late registration**  
name tags, banquet tickets, reception drink tickets handed out

**Orion Room**

**5:00–6:30pm**      **TGS Board Meeting**

**5:00–6:30 pm**      **Vendor Exhibition—open to all participants**

**Celeste Ballroom**

**6:30–7:30pm**      **Welcome and announcements**  
**Debbie Threadgill, TGS President 2022**

**\*Opening Reception**

**\*Food and beverage provided during these sessions. Two drink tickets for beer or wine for either the reception or banquet.**

**7:30–8:30pm**      **Opening keynote: Zachary Adelman, PhD**  
**"Engineering and un-engineering the genome of the disease vector mosquito *Aedes aegypti*"**

**8:30–10:00pm**      **Poster boards will be available for hanging up posters in the Aurora Room. Morning session posters must be hung up this evening, but all posters can be hung at this time.**  
TGS members are free to retire to the Stella bar or head home.

## Friday, April 1<sup>st</sup>

### Celeste Ballroom

- 8:20–8:30am** Welcome and announcements  
Dr. Debbie Threadgill, 2022 TGS President
- 8:30–9:30am** Morning Keynote: Kelli Carroll, PhD  
"Identification of Novel Regulators of Embryonic Development."
- 9:30–10:00am** Contributed Papers Session: Model Organisms/Translation to Human Health  
session moderator TBA
- 9:30–9:45am Investigating the regulators of microexon alternative-splicing in *C. elegans* using UNC-13 microexon model (F1)  
**Bikash Choudhary**, postdoctoral fellow, SMU
- 9:45–10:00am Sex, strain, and diet dependent modulation of gut microbiota (F2)  
**Anna Salvador**, postdoctoral fellow, TAMU COM

### Aurora Room

- 10:00–11:00am** Poster Session #1, even poster presentations  
(see end of program for assignments)  
\*Refreshment break

### Celeste Ballroom

- 11:00–12:00pm** Contributed Papers Session: Model Organisms/Translation to Human Health, continued
- 11:00–11:15am Spaceflight and microgravity response of plant telomeres and telomerase (F3)  
**Borja Barbero Barcenilla**, graduate, TAMU COALS
- 11:15–11:30am FOXO1 inhibits the expression of canonical WNT target genes in a set of basal-like breast and glioblastoma multiforme cancer cell lines (F4)  
**Shania Pintor**, graduate student, UTRGV, Dept. of Biology
- 11:30–11:45am ERBB4 mediates IL10-induced growth of EGFR-independent colon tumors (F5)  
**Michael McGill**, graduate student, TAMU IDP Graduate Program in Genetics and Genomics, COM
- 11:45–12:00pm Negative feedback regulation in *Drosophila* dorsal-ventral patterning (F6)  
**Allison Schloop**, graduate student, NCSU/TAMU

## Celeste Ballroom

12:00–1:15pm

\*Vendor workshops and lunch sponsored by 10X Genomics and Qiagen. **Lunch pick-up in the Celeste Pre-Function Area. Return to Celeste Ballroom for vendor workshops.**

## Celeste Ballroom

1:15–2:15pm

**Afternoon Keynote: Sara Lawhon DVM, PhD**  
**“Small Talk and Sequencing: *Staphylococcus pseudintermedius* Quorum-Sensing and Virulence in Dogs and Humans”**

2:15–3:00pm

**Contributed Papers Session: Microbial Genomics/Genetics**  
**session moderator: Kelli Carroll**

2:15–2:30pm

**Sheep in wolves’ clothing: Temperate T7-like bacteriophages and the origins of the *Autographiviridae* (F7)**  
**Justin Boeckman**, postdoc, TAMU Center for Phage Technology, COALS

2:30–2:45pm

**Utilizing Mitochondrial Dysfunction in Disease to Uncover Mitochondrial Maintenance Mechanisms (F8)**  
**Armando Moreno**, graduate student, Rice

2:45–3:00pm

**Role of Host Genetics in Methicillin-Resistant *Staphylococcus aureus* (MRSA) infection (F9)**  
**Aravindh Nagarajan**, graduate student, TAMU Interdisciplinary Graduate Program in Genetics and Genomics, COM

## Aurora Room

3:00–4:00pm

**Poster Session #2, poster presentations**  
**(see end of program for assignments)**  
**\*Refreshment Break**

## Celeste Ballroom

- 4:00–5:15pm**      **Contributed Papers Session: Microbial Genomics/Genetics, continued**  
session moderator: Kelli Carroll
- 4:00–4:15pm      **Analyzing *Salmonella* serovar dynamics in beef cattle and the feedlot environment using whole genome (F10) sequencing and phylogenetics,**  
**Colette Nickodem**, graduate student, TAMU CVM
- 4:15–4:30pm      **Comparative Genomics of *Campylobacter rectus*, an “Emerging *Campylobacter* Species” (F11)**  
**Casey Hughes Lago**, graduate student, TAMU Interdisciplinary Graduate Program in Genetics, COM
- 4:30–4:45pm      **Investigating the downstream effect of the HOG and CWI MAPK pathways on gene expression changes observed in the *Saccharomyces cerevisiae* *pgm2*Δ mutant (F12)**  
**Madelyn Oliver**, Austin College undergraduate
- 4:45–5:00pm      **Investigating the role of RNA polymerase II stalling in *spt4*Δ-mediated rescue of *Saccharomyces cerevisiae* mutants lacking PGM2 (F13)**  
**Ruthann Schmiede**, Austin College undergraduate
- 5:00–5:15pm      **Identification and Characterization of TANGO6 in Zebrafish Development (F14)**  
**Hannah Herron**, Austin College undergraduate
- 5:15–6:30pm**      Take down posters. Judges finalize scoring sheets.  
**Judges Meeting**

## Celeste Pre-Function Area

**5:30–6:30pm**      Visit vendor displays, network

## Celeste Ballroom

- 6:30–8:00pm**      **Banquet and Service Award Presentation, Acknowledgement of Sponsors, 1<sup>st</sup> Time Attendees/1<sup>st</sup> Time Presenters**
- 8:00–10:00pm**      TGS members are free to retire to the Stella bar or head home.

## Saturday, April 2<sup>nd</sup>

### Celeste Ballroom

- 8:20–8:30am**      **Session introduction**  
**Tina Gumienny, 2023 TGS President**
- 8:30–9:30am**      **Morning Keynote: Rich Meisel, PhD**  
**House Fly Polymorphic Y chromosomes affect Myriad Ecologically Relevant Phenotypes**
- 9:30–10:15am**      **Contributed Papers: Ecological Genetics, Genomics/ Evolutionary Genetics/Genomics**  
**session moderator: Megan Keniry**
- 9:30–9:45am      **Karyotypic stasis and swarming influenced the evolution of viral tolerance in a large bat radiation (S1)**  
**Nicole Foley**, postdoc, TAMU CVM
- 9:45–10:00am      **Testing for Signatures of Coevolutionary Local Adaptation and Congruent Gene Flow in a Co-Diversifying Ant-Endosymbiont Mutualism (S2)**  
**Brandon Meadows**, graduate student, Texas Tech University
- 10:00–10:15am      **Tree House Explorer: A Novel Genome Browser for Phylogenomics and Phylogeography (S3)**  
**Andrew Harris**, graduate student, TAMU Interdisciplinary Graduate Program in Genetics, CVM

### Celeste Pre-Function Area

- 10:15–10:35am**      **\*Coffee Break, vendors breakdown exhibits**

### Celeste Ballroom

- 10:35–11:35am**      **Contributed Papers: Ecological Genetics, Genomics/ Evolutionary Genetics/Genomics, continued**  
**session moderator: Megan Keniry**
- 10:35–10:50am      **Genomic Signatures of Cattle Introgression in Historical and Modern North American Bison (S4)**  
**Sam Stroupe**, graduate student, TAMU CVM
- 10:50–11:05am      **Genomic phylogeography of the Grace's Warbler (*Setophaga graciae*): evidence of in situ diversification and recent population expansion across pine-oak ecosystems (S5)**  
**Jack P. Hruska**, graduate student, Texas Tech

11:05–11:20am **The evolution of four chromosomal inversions underlying ecological adaptation in Atlantic herring using long–read sequencing (S6)**

**Minal Jamsandekar**, graduate student, TAMU CVM, TGS student representative

11:20–11:35am **The Role of Centromeres in Chromosome Number Evolution (S7)**

**Michelle Jonika**, graduate student, TAMU Interdisciplinary Graduate Program in Genetics, COS, TGS student representative

**11:35–12:00pm Judges finalize scoring sheets from morning session**

**12:00–1:00pm TGS business meeting and awards presentations**

**1:00pm pick up box lunch and depart meeting**

**Poster assignments: all even numbered posters are in the morning session and all odd numbered posters are in the afternoon session. Poster sessions are in the Aurora Room.**

**Poster session #1: Friday April 1<sup>st</sup>, 10:00–11:00am**

- P2. Coa4 acts upstream of Cox11 in the mitochondrial copper delivery pathway to Cox1 subunit of cytochrome c oxidase, Abhinav B. Swaminathan, graduate student presenter, TAMU COALS**
- P4. Sensory neuron transcriptomes reveal complex neuron-specific function and regulation of mec-2/Stomatin splicing, Canyon Calovich-Benne, graduate student presenter, SMU**
- P6. RNA binding proteins coordinately control lifespan in *C. elegans*, Rebekah Napier-Jameson, graduate student presenter, SMU**
- P8. Dissecting interactions across gene regulatory layers: Tdp-1 and Fust-1 coordinate with transcription factor Ceh-14 to affect reproduction in *C. elegans*, Morgan Taylor, graduate student presenter, SMU**
- P10. Characterizing the genetic and physical interaction of the DBL-1/BMP signaling pathway with BLMP-1/BLIMP1 transcription regulator in *Caenorhabditis elegans*, Mohammed Farhan Lakdawala, graduate student presenter, TWU**
- P12. Gene Regulatory Networks in Development: Genetic Variation and Robustness of Anterior-Posterior (AP) Axis Formation in *Drosophila*, Lossie (“Elle”) Rooney, graduate student presenter, NCSU**
- P14. Analysis of pMad and Medea Expression in BMP Pathway in *Drosophila* with Multiple Fluorescent Proteins, Hung-Yuan (Zeke) Chen, graduate student presenter, TAMU Engineering**
- P16. Understanding DNA double-strand break (DSB) repair in *Aedes aegypti*, Joseph S. Romanowski, graduate student presenter, TAMU IDP Graduate Program in Genetics and Genomics, TAMU COALS**
- P18. Using natural gene drives and genetic engineering tools for population control of invasive mice on islands, Ana M. Velasquez Escobar, graduate student presenter, TAMU IDP Graduate Program in Genetics and Genomics, TAMU COM**
- P20. Theiler’s Virus Induced Neuroinflammation of LRRK2 G2019S Transgenic Mice, Tae Wook Kang, graduate student presenter, TAMU CVM**

- P22. Identification of dysregulated small RNA in Angelman syndrome pig extracellular vesicles, Livia Schuller, graduate student presenter, TAMU IDP Graduate Program in Genetics and Genomics, TAMU CVM**
- P24. A Genomics Approach to Characterize White Coat Color Genes in American Bison, *Bison bison*. Carly Martone, graduate student presenter, TAMU CVM**
- P26. Genomic identification of the most diverged avian hybrid, James M. Alfieri, graduate student presenter, IDP in Ecology and Evolutionary Biology, TAMU**
- P28. The perils and promise of models of chromosome evolution, Terrence Sylvester, graduate student presenter, TAMU COS**
- P30. Cannabidiol (CBD) Signaling in Human Neuroblastoma, Claire Alexander, graduate student presenter, Lamar Univ, Biol.**
- P32. Evolution of Oxidative Stress Response Regulatory Function in Telomere-Associated Protein POT1b, David Curtis, technician presenter, TAMU COALS**
- P34. Testing in vitro toxicity using an organotypic culture model based on a novel mouse genetic reference population, Krishna N. Patel, technician presenter, TAMU COM**

**Poster session #2: Friday April 1<sup>st</sup>, 3:30–4:30pm**

- P1. Glyphosate's Effects on the Development of Zebrafish (*Danio rerio*), Mia Hibner, undergraduate presenter, Austin College**
- P3. A Characterization of the Role of the MRTF/SRF Pathway in Zebrafish Development, Taylor Dornseifer, undergraduate presenter, Austin College**
- P5. Characterization of the novel DUF4585 gene family in zebrafish, Yasmine Bukhari, undergraduate presenter, Austin College**
- P7. Exploring the effects of Methylglyoxal on cytosolic Ca<sup>2+</sup> levels in the absence of HACS and intracellular Ca<sup>2+</sup> efflux channels, Harsha Tamtam, undergraduate presenter, Austin College**
- P9. Examining growth phenotypes of the *pgm2Δ* mutation in *Saccharomyces cerevisiae* lacking or overexpressing TPS1, NTH1, and ATH1, Shruti Veera Raghavan, undergraduate presenter, Austin College**
- P11. Studying the effects of a primary microcephaly-associated mutation in *Caenorhabditis elegans*, Ramon Duran, undergraduate presenter, Univ. of Tulsa**



- P13. Transcriptional Regulation as a Conserved Function of BRCA1/BARD1 in *Caenorhabditis elegans*, Thu Uyen Nguyen, undergraduate presenter, TCU**
- P15. Genetic regulation of diet-induced thermogenesis in mice, Emanuele Baldassarri, undergraduate presenter, TAMU**
- P17. Accumulation of fat prior to dietary intervention may reduce efficacy of personalized dietary guidance in mice, Riley K. Watson, undergraduate presenter, TAMU**
- P19. The immune landscape of murine colorectal tumors, Matthew Crespo, Sophia Ferrer, Meghan Si, Holly Thill, Megan Thomas, Daniela Wong, undergraduate presenters, TAMU**
- P21. NF- $\kappa$ B-Inducing Kinase (NIK) Mediates Neuronal Function and Glioblastoma Tumor Microenvironment, Parker Smith, undergraduate presenter, TAMU**
- P23. Inequality of Sex Chromosome to Autosome Fusions, Kayla Wilholt, undergraduate presenter, TAMU**
- P25. Sequence and lineage characterization of major histocompatibility complex class I genes in Atlantic herring using comparative genomic approach. Mary Smith, undergraduate presenter, TAMU**
- P27. Reprogramming Collaborative Cross mouse embryonic fibroblast cells into induced pluripotent stem cells using the Sendai virus, Demi K. Waworuntu and Alex H. Phan, undergraduate presenters, TAMU**
- P29. CaveCrawler: An interactive analysis suite for cavefish bioinformatics, Annabel Perry, undergraduate presenter, TAMU**

**Postdoc presenters:**

- P31. Systems biology approaches to build a predictive model of Dorsal/NF- $\kappa$ B signaling network in the *Drosophila* embryo, Etika Goyal, postdoc presenter, TAMU Engineering**
- P33. FDX1 is required for copper release from elesclomol-copper complex in the mitochondria, Mohammad Zulkifli, postdoc presenter, TAMU COALS**
- P35. PROTECTION OF TELOMERES 1 regulates oxidative stress response and genome integrity in *Arabidopsis*, Ji-Hee Min, postdoc presenter, TAMU COALS**